

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) A polymerizable solid aliphatic polyurethane containing one or more olefinically unsaturated double bonds, said polyurethane having a very narrow melting range within the temperature range from 40 to 200°C, said polyurethane prepared by one of two processes (A) or (B) by:

(A) (i) reacting at least one linear aliphatic diisocyanate A) with at least one olefinically unsaturated compound C) having an isocyanate reactive group in a molar ratio A):C) of 1:1 to give an a product consisting of adduct A/C) containing one isocyanate group and one olefinically unsaturated group, and then

(ii) reacting the adduct A/C) with at least one aliphatic compound B) containing at least two isocyanate-reactive functional groups and/or water in a molar ratio A/C):B) of x:1, wherein x is the number of the isocyanate-reactive groups in the least one aliphatic compound B), to give the aliphatic polyurethane having terminal and/or lateral olefinically unsaturated double bonds, or

(B) (i) reacting at least one linear aliphatic diisocyanate A) with at least one aliphatic compound B) containing at least two isocyanate-reactive functional groups and/or water ~~one compound B)~~ in a molar ratio A):B) of x:1, wherein x is the number of the isocyanate-

reactive groups in the at least one compound B) to give the a product consisting of adduct A/B containing x isocyanate groups, and then

(ii) reacting the adduct A/B) is reacted obtained with at least one olefinically unsaturated compound C) containing an isocyanate-reactive functional group in a molar ratio C):A/B) of x:1, wherein x is the number of the isocyanate groups in the adduct A/B) to give the aliphatic polyurethane having terminal and/or lateral isocyanate olefinically unsaturated double bonds.

Claim 2. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the polyurethane has a melting range from 0.5 to 10° C.

Claim 3. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the polyurethane has a sharp melting point.

Claim 4. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the polyurethane has a very narrow melting range or a sharp melting point in the temperature range from 60 to 185° C.

Claim 5. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the polyurethane contains terminal and/or lateral olefinically unsaturated double bonds.

Appln No. 10/088,530
Reply to the Office Action of February 17, 2004

Claim 6. (Previously Presented) The aliphatic polyurethane of claim 5, wherein the olefinically unsaturated double bonds are present in (meth)acrylate, vinyl ether, vinyl ester, allyl, allyl ether and/or allyl ester groups.

Claim 7. (Currently Amended) The aliphatic polyurethane of claim 1, wherein the linear aliphatic diisocyanate A) ~~represents~~ is a monomeric diisocyanate, an oligomeric diisocyanate, a polymeric diisocyanate or mixtures thereof, derived from

- A) at least one linear aliphatic diisocyanate and
- B) at least one aliphatic compound containing at least two isocyanate-reactive functional groups.

Claim 8. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the isocyanate-reactive functional groups are amino groups, thiol groups or hydroxyl groups.

Claim 9. (Previously Presented) The aliphatic polyurethane of claim 8, wherein the aliphatic compound B) is linear.

Claim 10. (Previously Presented) The aliphatic polyurethane of claim 9, wherein the linear aliphatic compound B) is a diamine, triamine, amino alcohol containing at least one amino group and at least one hydroxyl group, diol, triol, tetrol, sugar alcohol or mixtures thereof.

Appln No. 10/088,530
Reply to the Office Action of February 17, 2004

Claim 11. (Previously Presented) The aliphatic polyurethane of claim 10, wherein the linear aliphatic compound B) is a low molecular weight diol, triol, a tetrol, a sugar alcohol having a molecular weight of from 62 to 200 daltons, a linear aliphatic oligomeric polyesterdiol, polymeric polyesterdiol, or polyetherdiol.

Claims 12 and 13. (Canceled)

Claim 14. (Currently Amended) The aliphatic polyurethane of claim ~~12~~ 1, wherein x is a number from 2 to 6.

Claim 15. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the soft phase has a glass transition temperature Tg <25°C.

Claim 16. (Canceled)

Claim 17. (Previously Presented) A powder coating material curable thermally and/or curable with actinic radiation which comprises at least one aliphatic polyurethane according to claim 1.

Appln No. 10/088,530
Reply to the Office Action of February 17, 2004

Claim 18. (Previously Presented) The powder coating material of claim 17, further comprising oligomers and/or polymers which are curable thermally and/or with actinic radiation and have a glass transition temperature Tg of more than 40°C.

Claim 19. (Previously Presented) The powder coating material of claim 17, further comprising one or more customary coatings additives.

Claim 20. (Previously Presented) The powder coating material of claim 17, wherein the powder coating material is in the form of a powder slurry coating material.

Claim 21. (Previously Presented) A coating derived from a powder coating material according to claim 17.

Claim 22. (Previously Presented) Primed and unprimed substrates comprising at least one coating according to claim 20.

Claim 23. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the polyurethane has a melting range of from 1 to 6° C.

Appln No. 10/088,530
Reply to the Office Action of February 17, 2004

Claim 24. (Previously Presented) The aliphatic polyurethane of claim 6 wherein, the olefinically unsaturated double bonds are present in methacrylate groups, acrylate groups or mixtures thereof.

Claim 25. (Previously Presented) The aliphatic polyurethane of claim 6, wherein the olefinically unsaturated double bonds are present in acrylate groups.

Claim 26. (Previously Presented) The aliphatic polyurethane of claim 5, wherein the olefinically unsaturated double bonds are terminal.

Claim 27. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the isocyanate-reactive functional groups are amino groups, hydroxyl groups, or mixtures thereof.

Claim 28. (Previously Presented) The aliphatic polyurethane of claim 1, wherein the isocyanate-reactive functional groups are hydroxyl groups.

Claim 29. (Currently Amended) The aliphatic polyurethane of claim ~~x~~ 1, wherein x is a whole number.

Appln No. 10/088,530
Reply to the Office Action of February 17, 2004

Claim 30. (Previously Presented) The primed and unprimed substrates of claim 22, wherein the substrates are bodies of automobiles, bodies of commercial vehicles, industrial components, plastic parts, packaging, coils, electrical components, or furniture.

Claim 31. (Previously Presented) A method for preparing powder coating materials, said method comprising mixing the aliphatic polyurethane according to claim 1 with a coating material to form a powder coating material.